

Remarks/Arguments

This paper is submitted responsive to the Office Action mailed February 5, 2007. Reconsideration of the application in light of the accompanying remarks and amendments is respectfully requested.

In the aforesaid action, the Examiner had rejected the then pending claims as anticipated and/or obvious over two primary references, namely, JP 59-213940 to Hirota (hereafter "Hirota") and JP 62-283567 to Takeu (hereafter "Takeu"). It is submitted that the claims as amended patentably define over the art of record.

In the aforesaid action, the Examiner indicated that the claims did not call for structure as specifically as the arguments supporting allowance of the then pending claims. By the present paper, claim 1 has been cancelled without prejudice and rewritten as new claim 18, formerly independent claim 17 has been amended to depend from new claim 18, and several other dependent claims have been amended to maintain proper dependency and consistency with new claim 18.

Turning to new claim 18, this claim positively recites, among other things, a water feed control unit which includes a sensor, a valve and a control unit for controlling the valve based upon temperature sensed by the sensor. This specific subject matter is not taught in any of the art of record.

Hirota discloses a pump 16. As the Examiner indicates, a pump is inherently controllable. However, nothing in Hirota discloses the claimed sensor, valve and control unit. Thus, claim 18 is submitted to be allowable over Hirota.

Reconsideration of this rejection as it applies to claim 1 as amended is respectfully requested. Specifically, the fact that a pump can be controlled by a control member does not equate to a teaching or suggestion to do so. Hirota fails to

disclose or suggest the control unit of claim 18. Rather, Hirota teaches only a pump, with no control aspect being disclosed or suggested by the figures and the English language Abstract. Clearly the general reference to a pump in Hirota does not lead to a sensor, valve and control unit as set forth in claim 18. Hirota does not anticipate claim 18.

Turning to Takeu, this patent also fails to anticipate claim 18. In connection with Takeo, the Examiner indicated that the critical differences between the present claims and Takeo, specifically relating to the injection of liquid phase water, were process limitations and not article limitations. New claim 18 sets these features of the invention out more clearly, and it is respectfully requested that the Examiner give these limitations full consideration. When properly considered, there are clear differences between Takeu and claim 18.

Takeu teaches introduction of steam into a conduit of a fuel cell system, and thus Takeu is drawn to a very different type of mechanism, similar in fact to that discussed in the background section of the present application. Takeu deals with steam and not the liquid phase water of the present invention. Thus, Takeu clearly does not anticipate claim 18. Further, this is not a trivial difference. As set forth in the specification, the key in the present invention to obtaining good efficiency is water phase change in the form of evaporating water, and not the inlet water temperature.

Independent claim 6 has been amended to specify that the water feed means is water feed means for feeding liquid phase water from the water source to the first and second conduit means. In order to interpret this claim limitation, 35 USC 112, sixth paragraph, requires consideration to be given to what structure is disclosed for carrying out the claimed function. The claim is then deemed to cover that disclosed structure and

equivalents. Claim 6 calls for water feed means for feeding water from the water source to the first and second conduits in a controlled manner for cooling the reformed gas and gas stream, respectively, to a desired temperature. Takeo is clear in its teaching to inject steam. This clear teaching completely misses the key point of the present invention which is to control temperature of the reformat gas or gas stream by utilizing the energy consumed by the evaporation of the liquid phase water.

Dependent claims 2, 5, 7-11 and 17 all depend directly or indirectly from claim 18 discussed above, and are submitted to be allowable based upon the comments supporting claim 18, and also in their own right.

An earnest and thorough effort has been made to place this application in condition for allowance. If, upon considering this paper, the Examiner is of the opinion that issues remain which could be resolved by telephone interview, the Examiner is invited to telephone the undersigned to discuss same.

It is believed that no fee is due in connection with this paper. If, however, any such fee is due, please charge same to Deposit Account No. 02-0184.

Respectfully submitted,

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